DETAILED ACTION

1. This office action is responsive to communications filed on May 5, 2011. Claims 1, 12, 13, 17, 20, 24 and 26 have been amended. Claims 11, 16, 18, 19 and 25 have been cancelled. Claims 1, 2, 12-17, 20, 21, 24 and 26 are pending in the application.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 5, 2011 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 12, 17, 20, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanuri et al. (US 6,934,260) in view of Fisher (US 6,931,018).

Regarding Claim 1, Kanuri teaches a data switch (*"The packet switched network includes an integrated (i.e., single chip) multiport switch 12 that enables communication of data packets between network stations 14"* – See Col. 3, lines 19-22; multiport switch 12 – See Fig. 1) comprising:

a plurality of ingress/egress ports for transmitting data packets including a MAC destination address and a MAC origin address (*"The switch 12 includes switch ports 20, each including a media access control (MAC) module 22 that transmits and receives data packets to the associated network stations 14 across 10/100 Mbps physical layer (PHY) transceivers (not shown) according to IEEE 802.3u protocol"* – See Col. 3, lines 33-37), the plurality of ingress/egress ports including a first ingress/egress port (port 20d – See Fig. 1) and a plurality of other ingress/egress ports (ports 20a-20c – See Fig. 2), and

address table construction means for generating a table containing associations between the ports of the switch and MAC addresses of any devices connected to the switch via those ports (*"In particular, the switch fabric 25 includes an address table 30 for storing for each network node a MAC address"* – See Col. 3, lines 61-63; *"each of the network switch ports 20 has a corresponding learning bit which, when set, causes the switch fabric 25 to learn layer 2 and layer 3 addresses of the data packets received by the corresponding switch port 20. Hence, the host CPU 26 begins in step 40 by setting the learning bit on all the ports to "1""* – See Col. 4, lines 58-63)

wherein the address table construction means is switchable between a first operating state and a second operating state (*"the switch fabric 25 checks in step 52*

whether the learning bit is set for the corresponding network switch port 20" – See Col. 5, lines 8-10; Based on the learning bit, MAC address learning for the corresponding port is either enabled or disabled), the address table construction means being operable to

insert said associations into said table for each of the first and the plurality of other ingress/egress ports when in the first operating state (*"If the learning bit is set, the switch fabric 25 checks in step 54 whether the MAC source address and the IP source address are learned, i.e., stored in the address table 30; if the switch fabric 25 determines that the MAC source address and the IP source address are not stored in the address table 30, the switch fabric 30 learns the source MAC and IP addresses by storing them in step 56 as a new entry in the address table 30"* – See Col. 5, lines 10-17), and

stop generation of the table with respect to the first ingress/egress port before MAC addresses of at least some devices operably coupled through the first ingress/egress port are associated with the first ingress/egress port in the table when in the second operating state (*"If in step 52 the switch fabric 25 determines that the learning bit is not set (i.e., disabled), the switch fabric 25 ignores the MAC and IP source addresses"* – See Col. 5, lines 20-22; *"the host CPU 26 begins in step 40 by setting the learning bit on all the ports to "1". The host CPU 26 then identifies the router interface port 20d that is configured for sending and receiving data packets to the router 16 in step 42. The host CPU 26 then disables (i.e., it resets) the learning bit to zero on the router interface port in*

step 44. After the learning bit has been disabled on the router interface port 20d, the network switch 12 is ready to begin switching data packets" – See Col. 4, lines 62-67 & Col. 5, lines 1-3; *"the disabling of learning for the router interface port 20d ensures that the router cannot overwhelm the address table 30"* – See Col. 4, lines 50-52; Thus MAC addresses of devices connected to port 20d are not learned in order to prevent the address table from being overwhelmed).

a switching fabric (*"The switch 12 also includes a switch fabric 25 configured for making frame forwarding decisions for received data packets"* – See Col. 3, lines 37-39), and

a control unit operable to control the switching fabric (*"The host CPU 26 controls the overall operations of the corresponding switch 12, including programming of the switch fabric 25"* – See Col. 3, lines 49-51),

Kanuri does not explicitly teach the control unit being arranged, upon receiving a data packet from any of the other ingress/egress ports having a destination address which is not stored in the table, to control the switching fabric to transmit the data packet to the first ingress/egress port.

However, Fisher does teach a switch that, upon receiving a data packet from any of the other ingress/egress ports having a destination address which is not stored in the table, controls the switching fabric to transmit the data packet to the first ingress/egress port (*"In step 604, when the destination IP address in the IP data packet does not match an IP addresses stored in the routing table, step 606 is performed. In step 606, the IP data packet is routed to the external network"* – See Col. 7, lines 15-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include to routing logic of Fisher in the switch of Kanuri. Motivation for doing so would be to efficiently route traffic between local devices while properly routing traffic destined for the Internet through an ISP (See Fisher, Col. 3, lines 4-11).

Regarding Claim 2, Kanuri further teaches the address table construction means being switched between the first and the second operating state according to a setting of a control register (*"the switch fabric 25 checks in step 52 whether the learning bit is set for the corresponding network switch port 20"* – See Col. 5, lines 8-10).

Regarding Claim 12, Kanuri further teaches the first ingress/egress port being adapted to be connected to a communication network (*"One of the network switch ports 20d, also referred to as a router interface port, is coupled to a router 16 for transfer of data packets between the integrated network switch 12 and an external network 17, such as the Internet"* – See Col. 3, lines 55-58).

Claim 17 is rejected based on reasoning similar to Claim 1. Kanuri further teaches stopping generation of the table occurring after at least one MAC address of at least one device operably coupled through the first ingress/egress port is associated with the first ingress/egress port in the table (As shown in Fig. 3, the switch is initially configured to allow MAC address learning on all ports. Later on, learning is disabled for

the router interface port (first port) such that some, but not all MAC addresses of devices coupled to the router interface port are learned).

Kanuri does not explicitly teach discarding a data packet received from the first ingress/egress port that does not have a destination address associated according to the table with any of the other ingress/egress ports.

However, Fisher does teach discarding a data packet received from the first ingress/egress port that does not have a destination address associated according to the table with any of the other ingress/egress ports (Following the logic of the flow chart illustrated in Fig. 6, if a packet is received on WAN interface 144 (the "first" ingress/egress port) and the destination address is not found in the table, then the packet would be sent back out to the external network. As a result, the packet would effectively be discarded since it is not forwarded further by the switch).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanuri to discard a data packet received from the first ingress/egress port that does not have a destination address listed in the table. Motivation for doing so would be to efficiently route traffic between local devices while properly routing traffic destined for the Internet through an ISP (See Fisher, Col. 3, lines 4-11).

Regarding Claim 20, Fisher further teaches forwarding the data packet only if the data packet was received from one of the plurality of other ingress/egress ports (*"In step 602, IP data packets that are received from CPE on the in-home network are evaluated"*

– See Col. 7, lines 11-13; *"In step 604, when the destination IP address in the IP data packet does not match an IP addresses stored in the routing table, step 606 is performed. In step 606, the IP data packet is routed to the external network"* – See Col. 15-18; Data packets received from the CPE (plurality of other ingress/egress) ports are forwarded after they are received).

Claim 24 is rejected based on reasoning similar to Claim 1.

Regarding Claim 26, Fisher further teaches transmitting the data packet to a corresponding ingress/output port if the data packet contains a destination address that is present on the table (*"In step 604, when the destination IP address in the IP data packet matches an IP addresses stored in the routing table, step 608 is performed"* – See Col. 7, lines 25-27; *"As a result of step 608, a revised data packet is created. In step 610, the revised data packet is placed back on the in-home network or local network for receipt by the appropriate CPE"* – See Col. 7, lines 31-34).

5. Claims 13-15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanuri et al. (US 6,934,260) in view of Fisher (US 6,931,018) and further in view of Kramer et al. (US 6,658,027).

Regarding Claim 13, Kanuri and Fisher do not explicitly teach at least one of the other ingress/egress ports being arranged to receive and transmit voice signals. Kanuri

discloses the switch being operable to receive and transmit Ethernet data (*"FIG. 1 is a block diagram illustrating a packet switched network 10, such as an Ethernet (IEEE 802.3) network"* – See Col. 3, lines 18-19). Kramer teaches modulating voice signals into Ethernet data (Fig. 3 shows a VoIP apparatus which converts a voice signal via CODEC 160 to Ethernet data via Ethernet interface 310). It would have been obvious to one of ordinary skill in the art at the time the invention was made to convert voice signals to Ethernet data for use with the network switch disclosed by Kanuri. Motivation for doing so would be to carry voice signals and other data over the same network infrastructure.

Regarding Claim 14, Kanuri in view of Fisher and Kramer teaches the device according to Claim 13. Kramer further teaches the device comprising a microphone, a speaker, circuitry configured to transform sound signals received from the microphone into data packets and to transform data packets into control signals for the speaker (Fig. 3 shows a microphone, speaker, CODEC 160 and various other circuitry used to convert analog voice signals to digital packet data as well as convert digital packet data to audio signals for playback through a speaker), and wherein the circuitry is coupled to the at least one of the other ingress/egress ports arranged to receive and transmit voice signals (Fig. 3 shows Ethernet interface 310 which may be coupled one of the ingress/egress ports of the Ethernet switch disclosed by Fisher).

Regarding Claim 15, Kanuri in view of Fisher and Kramer teaches the device according to Claim 14. Kanuri further teaches sockets adapted to connect one or more of the other ingress/egress ports to devices which each have a MAC address (*"The switch 12 includes switch ports 20, each including a media access control (MAC) module 22 that transmits and receives data packets to the associated network stations 14 across 10/100 Mbps physical layer (PHY) transceivers (not shown) according to IEEE 802.3u protocol"* – See Col. 3, lines 33-37).

Regarding Claim 21, Kanuri in view of Fisher teaches the method of Claim 17. Kanuri and Fisher do not explicitly teach converting analog audio signals to data packets and providing the data packets to one of the other ingress/egress ports.

However, Kramer teaches converting analog audio signals to data packets (*"For VoIP networks, audio signals are digitized into frames and transmitted as packets over an IP network"* – See Col. 1, lines 12-13; Fig. 3 shows a CODEC 160 for receiving analog audio data from a microphone and encoding the data into digital packet data) and providing the data packets to one of the other ingress/egress ports (Fig. 3 Shows an Ethernet interface 310 for providing the packet data to a network). It would have been obvious to one of ordinary skill in the art at the time the invention was made to convert voice signals to Ethernet data for use with the network switch disclosed by Kanuri for the same reasons as those given with regard to Claim 13.

Response to Arguments

6. Applicant's arguments filed on May 5, 2011 have been fully considered but they are not persuasive.

7. On pages 9-10 of the remarks, Applicant argues in substance that the Kanuri and Fisher references are not compatible because they were issued within a week of each other and allowed by the same examiner.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Sciacca whose telephone number is (571)270-1919. The examiner can normally be reached on Monday thru Friday, 7:30 A.M. - 5:00 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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